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# **METHODOLOGICAL APPROACHES TO ASSESSING TOBACCO HEALTH WARNINGS**

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## **METHODOLOGICAL APPROACHES TO ASSESSING TOBACCO HEALTH WARNINGS**

While the USA introduced the world's first health warning on cigarette packs in 1966, it took until 2001 for Canada to introduce the world's first pictorial warning. Today, over 100 countries and jurisdictions have mandatory pictorial warnings on cigarette packs. While evidence strongly suggests that pictorial warnings should be used rather than text-only warnings<sup>1</sup>, the jury is still out on which types of pictures and messages are most effective. The articles in this month's issue use a range of methodologies, including online experiments, eye-tracking studies and longitudinal surveys, to examine not only which health warnings should be used on cigarette packs, but also on smokeless tobacco products, e-cigarettes, tobacco advertisements and the cigarettes themselves.

In a large online study, Evans and colleagues<sup>2</sup> showed adult and adolescent smokers either a text-only warning, the same text with a low-emotion pictorial or the same text with a high-emotion pictorial. Unlike many studies in this field, participants viewed the health warnings multiple times over a two-week period, which better replicates how smokers interact with health warnings in real life. The authors find that a greater emotional response to the warnings was related to increased risk perceptions of smoking, which in turn was related to increased quit intentions. Interestingly, while high-emotion pictorials elicited the greatest emotional response, the low-emotion pictorial warnings elicited an emotional response even lower than the text-only warnings. This important finding suggests that simply placing *any* pictorial on warnings is not sufficient to increase risk perceptions and intentions to quit; the content of the pictorial is crucial.

In another large online experiment, Brennan and colleagues<sup>3</sup> assessed a different component of health warning content: the use of testimonials from real smokers. Immediately after viewing the warnings, the authors measured emotional reactions and intentions to quit, and after five weeks, actual quitting activity was assessed. Given that the impacts of warnings are likely to accumulate gradually, this study is also important from a methodological perspective, as it demonstrates how the effects of health warnings can be assessed over the longer term.

While many studies in this field are specifically intended to help us understand the direct impact of warnings, Memish and colleagues<sup>4</sup> go one step further, using a novel approach to understand whether a self-affirmation manipulation prior to viewing a warning can enhance the warning's efficacy. In their study, smokers were randomly assigned to a self-affirmation condition (reflecting on their positive personal traits) or a control condition, before being exposed to a health warning. A week after the intervention, a reduction in the number of cigarettes smoked per day was observed for the heavier smokers in the self-

affirmation condition. These data suggest that self-affirmation may be a useful adjunct to improve the efficacy of health warning labels and campaigns.

In the USA, where pictorial warnings are yet to be introduced on cigarette packs, much of the focus has been on assessing the efficacy of these kinds of warnings. However, in countries such as the UK, which introduced pictorial warnings in 2008 and plain packaging in 2016, researchers are searching for novel methods of communicating the risks of smoking. Moodie and colleagues<sup>5</sup> report the results of a survey asking adolescents their view on placing a 'Smoking kills' warning on the cigarette itself. The majority reported they would support the introduction of 'dissuasive cigarettes' and almost three quarters thought it would put people off smoking.

Francis and colleagues<sup>6</sup> tie the articles in this issue together by describing a systematic review of the measures used in pictorial health warning experiments. Across 68 studies, the authors find that 278 different measures are used. These were often single-item measures with unknown psychometric properties. Francis and colleagues suggest that the Message Impact Framework (MIF)<sup>1</sup>, which has five theory-based categories: 1) *attention and recall*, 2) *warning reactions*, 3) *knowledge/attitudes/beliefs*, 4) *intentions* and 5) *perceived effectiveness* is used to better develop and classify measures used in this field. Using a robust and consistent approach when assessing health warnings will allow us to compare across studies, understand the effects of pictorial warnings on smoking-related outcomes and develop consensus on the types of warnings which should be used to discourage tobacco use.

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